

## ***2003 CRAB Annual Report***



## County Road Administration Board

<b>Chairman Tim Snead, Grant County Commissioner</b>	2005
<b>Vice-Chairman Don Scheibe, Asotin County Commissioner</b>	2006
David Carey, Walla Walla County Commissioner	2004
Dean Burton, Garfield County Commissioner	2004
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Judie Stanton, Clark County Commissioner	2005
Robert Breshears, P.E., Lincoln County Engineer	2005
Patty Lent, Kitsap County Commissioner	2006
Tom Ballard, P.E., Pierce County Engineer	2006

*(Terms expire June 30 of year shown)*

## County Road Administration Board Staff

**Executive Director, Jay Weber**

**Executive Assistant, Karen Pendleton**

Administration: Toni Cox, Engineering Technician  
Rhonda Mayner, Receptionist

**Deputy Director, Walter Olsen, P.E.**

Engineering: Alan King, P.E., Intergovernmental Policy Manager  
Randy Hart, P.E., Grant Programs Manager  
Dave Whitcher, P.E., Inventory/PMS Engineer  
Larry Pearson, P.E., Maintenance Manager

**Assistant Director, Steven Hillesland**

Technology: Daniel Dickson, Systems Manager  
Jim Ayres, P.E., Design Systems Engineer  
Jim Oyler, Development Technician  
Kathy O'Shea, Database Development Specialist

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## From the Executive Director

Instead of the summary format usually found in this portion of the annual report of the Washington State County Road Administration Board, I would like to use this space to speak to the departure from this agency of two of our staff members: Christina Mudgett, P.E., Intergovernmental Policy Manager; and Dave Whitcher, P.E., Inventory Manager/Pavement Management Systems Engineer. Both these individuals served with distinction in our Engineering Services Division.

Ms. Mudgett came to CRAB from Snohomish County and served as Engineering Services Manager before assuming the duties of Intergovernmental Policy Manager, the title she held until leaving this agency to accept a position with the City of Olympia. She was known around the state, and indeed the nation, for her expertise in program analysis. It is rare to find analytical prowess, a talent for futuring, and warm good humor in one person, yet she brought that rarity to every task and situation. The updating and restructuring of the County Engineers' and Public Works Directors' Manual was largely her undertaking, and she provided the lion's share of the agency's contributive effort in the Certified Public Officials training program.

Mr. Dave Whitcher has long been the individual responsible for maintenance of the County Road Log, as well as the watchdog over the pavement management systems of all thirty-nine counties, but that is only the beginning of what he has actually done during his tenure at CRAB. He also calculated the counties' share of the fuel tax distribution; he managed the annual update of the County Freight and Goods System; and while doing that was able to amalgamate, analyze, and present county related road data to WSDOT, FHWA, and to the legislature with an accuracy which can only be described as uncanny. Dave's ability was matched only by his willingness to place himself at the service of the counties, and both will be missed by them and by CRAB.

The Counties' transportation system is better, safer, and more efficient because of the talents, expertise, and old-fashioned hard work which Mr. Whitcher and Ms. Mudgett tendered to the people of the state of Washington in the highest tradition of public service. Those of us who remain at CRAB extend to each of them our very best wishes.

# Engineering Services

The Engineering Services Division, under the direction of Deputy Director Walt Olsen, includes Intergovernmental Policy Manager Al King, Maintenance Program Manager Larry Pearson, Grant Programs Engineer Randy Hart, and Management Systems Engineer Dave Whitcher. This small staff, all of whom hold Professional Engineer licenses, is directly responsible for:

- Functions related to the administration of the Rural Arterial Program, the County Arterial Preservation Program, and the Capital Ferry Program
- Functions related to the maintenance of the County Road Log and the computations and updates to the distribution of the counties' share of the motor vehicle fuel tax
- Management of the reports and other information necessary for recommendations related to the Annual Certificate of Good Practice for each county

Other functions of the division include:

- Guidance and research on statutory and regulatory issues affecting county road and public works departments
- Assistance in representation of county engineer interests on a variety of state-level committees and task forces
- Design and traffic engineering assistance to counties as requested, including consultant selection assistance
- Liaison services on behalf of county engineers with various state agencies, especially the H&LP Division of WSDOT

To keep abreast of future changes, Engineering Services staff participates in various interagency work groups on such issues as emergency management, infrastructure funding coordination, environmental permitting and process streamlining efforts, urban boundaries definition and design issues.

CRAB acts as a clearinghouse for information requests, questions and the exchange of ideas. With an emphasis on good communication, Engineering Services staff has worked with state transportation officials, resource agencies personnel and public works departments as they strive to meet the transportation needs of their counties.

Engineering Services also strives to stay informed and to share information about emerging issues impacting county public works departments. Issues currently meriting such attention are salmon recovery, storm water management and regulations, and asset management.

Beginning in 2001, a major focus of the Engineering Services Division was placed on developing a Maintenance Management System and assisting the counties in its implementation. The intent of the maintenance management initiative is to increase the use of formal maintenance management systems in county maintenance operations rather than to tell counties how to perform their maintenance activities. By implementing Standards of Good Practice related to maintenance management, counties will be encouraged to examine their maintenance processes and to look for ways to improve upon the various activities being performed. During the initial phase of the effort, CRAB's Maintenance Program Manager conducted a survey and met with counties to review current maintenance management programs. Survey results together with follow-up discussions with the counties showed that, while there are many examples of good maintenance management programs being used in the counties, actual maintenance practices vary widely throughout the state. CRAB intends to use the good examples to promote the application of improved maintenance management practices. A collection of activities guidelines has been developed for use by the counties. In 2003, the Maintenance Management Program moved into the implementation phase and a draft Maintenance Management manual was prepared. It is intended to provide initial support and guidance for implementation and operation of a formal Maintenance Management System (MMS). The Manual has been used during discussions with County Engineers and Maintenance Managers in preparation for addressing improved maintenance practices in the counties. Subsequent meetings with the counties have included and will continue to include Supervisors as an important part of maintenance management program implementation. Initial efforts have focused on the building blocks of a formal maintenance management system. Such building blocks include complete descriptions of maintenance activities, commonly referred to as maintenance guidelines, and a compilation of maintenance assets—an inventory of those physical features that require maintenance.

A final responsibility of the Engineering Services Division is the maintenance and updating of the county Engineers' and Public Works Directors' Manual and the provision of training to County Engineers and their staffs. Two sessions were conducted in late 2003 to address the recent turnover of county engineers and public works directors as well as provide an opportunity for senior staff members to understand the challenges and develop the knowledge base for possible advancement.

## Information Services

The Information Services Division, under the direction of Assistant Director Steven Hillesland, includes Systems Manager Daniel Dickson, Design Systems Engineer Jim Ayres, P.E., Support Specialist Jim Oyler, and Database Development Specialist Kathy O'Shea.

The Information Services Division, in 2003, made unique and creative contributions to the design and management efforts of Washington counties. Beyond providing a progressive, stable and secure computing environment for this agency's staff, Information Services develops and provides systems, training and consulting services specific to the needs of county road departments in Washington. These services, being one common solution applied across the State, effectively demonstrate the economy-of-scale for which CRAB has become well known. They enable Washington's county road departments to better complete their missions and serve their citizens. The Information Services efforts are directed at ensuring that our counties effectively apply current and emerging technology to improve and preserve the public's investment in transportation infrastructure.

The primary focus of information services at CRAB is on road engineering design and road management practices. The design systems section provides and supports the road design software *Eagle Point Advantage Series*, which greatly enhances a county's ability to consistently design safe and cost-effective road projects. The management systems section develops, provides and supports integrated database systems, such as the new *Mobility* or the venerable *County Road Information System*, both of which greatly enhance a county's ability to make quality decisions through consistent, equitable, and defensible management plans and processes. Each of these initiatives then depends on and is enhanced by a broad range of consulting services, support and training provided by CRAB to Washington counties at little or no cost.

A secondary but critical focus is on information exchange. CRAB enables citizens, engineers and legislators alike to make more informed decisions about our State's transportation strategies using technology, such as our effective website, to enhance the communication pipeline CRAB has become.

## MANAGEMENT SYSTEMS

*Mobility* was the primary initiative of the Information Services team at CRAB in 2003. *Mobility* is a road inventory and management system, developed by CRAB, which replaces the aging *CRIS* system developed by CRAB in 1987 and used effectively by Washington counties for 16 years. The systematic application of sound business logic embedded in *Mobility* ensures consistency, equity, accountability, and defensibility of the strategic plans and operations developed by county road departments.

The screenshot displays the *Mobility* software interface. On the left, a list of roads is shown with columns for Name, Number, Asc, and Desc. The main window is divided into several sections: a 'Key' section with fields for Road Number (15770), Road Name (101ST AVE SW), From Milepost (12.740), and To Milepost (13.170); a 'Reference Information' section with fields for From and To locations; a 'Classification' section with tabs for Cross Section, Structure, Traffic, Needs Analysis, Districts / Routes, Area, and Misc; and a 'Totals' section showing Operational Width (35), Pavement Width (35), Cross Section Width (51), and CRIS Width. The 'Cross Section' tab is active, showing a table with columns for # of, Surface, Width, and Type. The table lists various road features such as Thru Lane, Other Lane, Median, Left Bicycle, Right Bicycle, Left Shoulder, Right Shoulder, Right Sidewalk, and Left Sidewalk, each with a corresponding surface type and width. The 'Select Features' section on the left lists various features like Roadlog, Reference Points, Signs, Guardrails, Culverts, Traffic Study, Crashes, Street Lighting, Storm Systems, Approaches, Right of Way Widths, Right of Way Document, Surface Condition, Surface History, Structural Condition, and Ride.

*Mobility* went through a pilot process and beta testing phase in 2003 and will be deployed throughout Washington counties in 2004. The pilot process, which placed *Mobility* in three Washington counties in the summer of 2003, was the culmination of the critically important collaborative strategy of the *Mobility* development. Working directly with the users during development of *Mobility* ensured that it would, and the pilot proved that it does, respond to their needs and fit with their working environment, improving both their decision-making and management practices.

The beta testing process, begun in November, is that final effort to identify any problems with what appears to be a product ready for release. Six counties in Washington, large and small, east and west, technology challenged and technology innovative will thoroughly test *Mobility* in a live environment.

The response by users to both the pilot and the beta testing has been across the board acceptance of and enthusiasm for the deployment of *Mobility*. The collaborative development effort of *Mobility* has ensured that the counties will receive a management system tuned to their specific needs, and will save the counties from having to spend millions on systems that are neither as specific nor as responsive to their needs.



## **TECHNICAL ASSISTANCE**

A hallmark of the success of Information Services is the effectiveness of the training and support offered by CRAB to counties and our timely response to county requests and critical issues. Washington counties are continually facing declining resources and increasing challenges. CRAB is committed to offering support, training and other assistance to help our counties be accountable to the regulations CRAB and others write and enforce. CRAB provides world-class training and support on the products it develops and provides, as well as timely assistance in any other challenge confronting Washington counties. A further success at CRAB is demonstrated by its unique ability to be a conduit for information exchange amongst counties, exhibiting that economy-of-scale in providing single point solutions to common challenges in the counties.

## **DESIGN SYSTEMS**

Design Systems is a program of which CRAB is particularly proud. We have provided engineering road design software, support and training to Washington counties that have greatly improved their design capabilities since 1985. This program has enabled county design personnel to effectively collect, develop and manipulate the geometric information necessary for site design and construction planning, to contain costs, and to improve productivity throughout the life of a road project.

The keys to the success of this program are providing effective software, support, and training and engaging our client design personnel in the process. The effective design



software we currently provide is state-of-the-art in all aspects of the professional civil engineering discipline; our support and training are world class; and we engage the Washington design community in unique and creative ways.

Clallam County used CRAB design software and RAP funding in 2003 to greatly improve the O'Brien Road. O'Brien Road went from a cart path to a hard surface in the 1800's and slowly improved over the years. Yet in 2002 it was still a narrow

roller-coaster with inadequate shoulders and other safety concerns such as site distance, curvature, grades, slopes, and ditches.

A new design produced a much safer driving experience by increasing road width, site distance, and clear zone; improving in-slopes and curve radius; providing adequate super-elevation and vertical profile; and adding guardrails where necessary.

# Grant Programs

## RURAL ARTERIAL PROGRAM & COUNTY ARTERIAL PRESERVATION PROGRAM

Utilizing 1.03 cents of the statewide fuel tax revenue, the County Arterial Preservation Program (CAPP) and the Rural Arterial Program (RAP) provide vital assistance to the counties of Washington State in meeting their short and long term transportation needs. The CAPP and RAP fund structural, safety, and mobility improvements on a road system of over 13,000 miles. The CAPP generates approximately \$28 million per biennium and the RAP about \$39 million. Less than 3% of this revenue is used for administration.

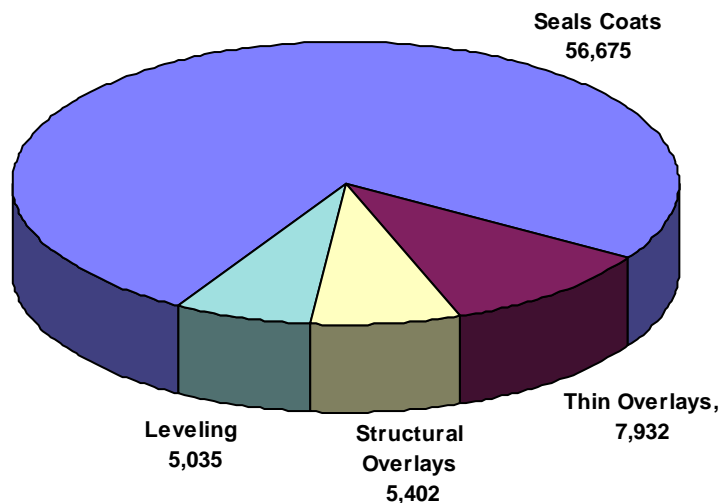
### **RURAL ARTERIAL PROGRAM PROJECTS BY COUNTY AND LEGISLATIVE DISTRICT IN 2003**

<u>COUNTY</u>	<u>LEG.DIST.</u>	<u>RATA \$'s PAID</u>	<u>COUNTY</u>	<u>LEG.DIST.</u>	<u>RATA \$'s PAID</u>
ADAMS	9	3,481	OKANOGAN	7	52,304
ASOTIN	16	4,510	OKANOGAN	12	663,894
BENTON	15	793,521	PACIFIC	19	523,963
CHELAN	12	190,364	PEND OREILLE	7	1,134,304
CLALLAM	24	463,063	PIERCE	2	364,124
CLARK	18	163,826	PIERCE	31	9,969
GARFIELD	16	1,388,868	SKAMANIA	15	360,000
GRANT	13	2,522	SNOHOMISH	39	117,050
GRAYS HARBOR	24	2,872	SPOKANE	4	119,514
ISLAND	10	307,211	SPOKANE	7	1,402,299
JEFFERSON	24	391,207	SPOKANE	9	8,337
KING	5	295,760	STEVENS	7	991,606
KING	45	8,922	THURSTON	20	60,261
KITSAP	23	704,815	WALLA WALLA	16	1,228,241
KITTITAS	13	397,684	WHATCOM	40	407,553
KLICKITAT	15	1,031,070	WHITMAN	9	923,485
LEWIS	20	8,119	YAKIMA	15	63,638
LINCOLN	7	117,310			
				TOTAL	14,705,668

**THE MANY FACES OF THE RURAL ARTERIAL PROGRAM**  
**& COUNTY ARTERIAL PRESERVATION PROGRAM**

In 2002, responding to data from their own pavement management systems, counties used \$14,000,000 in CAPP funds (see Table G) as part of a \$46,000,000 statewide program to preserve existing paved road surfaces. This greatly reduced the need for high cost maintenance and reconstruction repairs in the future. The chart below describes the total miles of resurfacing counties have accomplished since the CAPP began in 1990. About 65% of the work has been done on the state-adopted County Freight and Goods Transportation System.

**LANE MILES ACCOMPLISHED TO DATE, ALL FUNDS  
1990 - 2002**



## **RURAL ARTERIAL PROGRAM**

Many roads (of the nearly 14,000 miles that are eligible for RAP) face heightened growth, freight and safety issues due to deficient geometry, structure or safety features that cannot be remedied with a resurfacing project. Using \$14,705,668 of RAP funds, counties were able to plan, design, and build reconstruction projects that meet these larger scope needs. The following table describes RAP usage by each of the counties since the program began in 1983:

<u>REGION</u>	<u>COUNTY</u>	<u>TOTAL RATA APPROVED</u>	<u>TOTAL RATA SPENT</u>	<u>PERCENT SPENT</u>
NE	Adams	11,680,880	9,927,215	85%
NE	Chelan	12,674,800	5,978,213	47%
NE	Douglas	15,043,135	7,535,577	50%
NE	Ferry	12,196,330	8,911,567	73%
NE	Grant	16,734,543	14,241,252	85%
NE	Lincoln	12,767,520	11,878,267	93%
NE	Okanogan	12,804,382	5,852,479	46%
NE	Pend Oreille	14,407,578	7,889,060	55%
NE	Spokane	18,236,328	12,016,432	66%
NE	Stevens	13,980,385	10,861,500	78%
NE	Whitman	14,548,912	10,729,253	74%
NE REGION TOTALS		155,074,793	105,820,814	68%
NW	Clallam	5,535,076	4,403,853	80%
NW	Island	6,935,700	2,589,783	37%
NW	Jefferson	3,936,088	1,742,045	44%
NW	Kitsap	5,371,520	3,623,519	67%
NW	San Juan	3,516,908	1,727,423	49%
NW	Skagit	6,632,613	4,424,988	67%
NW	Whatcom	8,682,182	7,000,715	81%
NW REGION TOTALS		40,610,087	25,512,327	63%
PS	King	7,244,705	3,791,224	52%
PS	Pierce	7,671,666	4,406,073	57%
PS	Snohomish	10,715,071	6,881,629	64%
PS REGION TOTALS		25,631,442	15,078,925	59%
SE	Asotin	7,985,866	4,818,642	60%
SE	Benton	9,712,553	5,513,506	57%
SE	Columbia	7,204,465	4,708,637	65%
SE	Franklin	6,319,429	4,295,743	68%
SE	Garfield	8,197,743	5,448,275	66%
SE	Kittitas	9,592,770	5,742,827	60%
SE	Klickitat	12,314,953	8,105,363	66%
SE	Walla Walla	9,751,067	6,786,585	70%
SE	Yakima	14,342,312	8,238,550	57%
SE REGION TOTALS		85,421,158	53,658,127	63%
SW	Clark	6,839,342	6,065,212	89%
SW	Cowlitz	7,659,163	5,866,950	77%
SW	Grays Harbor	7,745,425	4,370,393	56%
SW	Lewis	4,725,105	4,157,473	88%
SW	Mason	8,197,003	4,936,544	60%
SW	Pacific	5,144,065	4,549,989	88%
SW	Skamania	1,782,618	932,263	52%
SW	Thurston	8,829,268	5,256,577	60%
SW	Wahkiakum	3,746,895	2,390,312	64%
SW REGION TOTALS		54,668,884	38,525,713	70%
TOTAL		361,406,364	238,595,906	66%

# 2003 Grant Program Projects

## USING RAP AND CAPP FUNDS, GRANT COUNTY WEIGHS IN ON AREA-WIDE TRANSPORTATION UPGRADES

*Road improvements funded by the Rural Arterial Program (RAP) are typically a great benefit to local area businesses. This was especially true of Grant County's*



*enhancements to 11 SW Road in 2002. 11 SW Road serves the growers and ranchers of the Royal Slope Agricultural Region in Grant County. As one of the county's fastest growing areas, the region's diverse range of products, including beef cattle, apples and vineyards, enhances the wealth, employment and general well being of the farming community. The 11 SW Road RAP project was a significant part of the county's efforts to assure this economy*

*stays strong. With the help of \$624,223 in RATA funding, the 5 mile long project replaced failing base materials with stronger gravels, widened the road to safety standards, and applied a Bituminous Surface Treatment (BST) to preserve its new condition and reduce maintenance.*



*In addition to 11 SW Road, the county has constructed and resurfaced an additional 23 miles of important collector roads in the area using Federal and CRAB administered County Arterial Preservation Program (CAPP) funds. Combined with WSDOT improvements to State Route 26 and Grant County's new district maintenance facility, this section of the Royal Slope Agricultural Region has received a near-total upgrade to its transportation services.*

*RAP and CAPP funds are clearly crucial parts of the transportation resources counties need in order to maintain their existing and developing economies.*

## **WHATCOM COUNTY COMPLETES PARK ROAD RECONSTRUCTION**

*Park Road is a minor collector serving southwestern Whatcom County. The roadway links the south end of Lake Whatcom to State Route 9. Traffic utilizing this roadway, notably school bus traffic and public services, has no practical alternative route. Forseeing the road's demise through pavement failure, weak and narrow shoulders, and unsafe roadway features, the county proposed the project for RAP funding in two sections. Both sections ranked high on the array and funding was granted for both in April of 1999.*

*The project scope was defined as reconstruction from SR9 to South Bay Drive, a length of 2.78 miles. The improvements included removing failed pavement sections, shoulder rehabilitation, paving travel lanes and shoulders with asphalt concrete pavement, guardrail installation, and safety improvements over the entire length.*

*Colacurcio Brothers of Blaine, WA accomplished the work, with construction starting in May of 2001 and ending in August 2002. The total project cost was \$4,780,103, with \$1,000,000 of that amount provided by the RAP.*



*The Park Road project demonstrates Whatcom County's keen focus on meeting local road needs using the right funds for the right improvements.*



## **COLUMBIA COUNTY FUNDS BROUGHTON BRIDGE REPLACEMENT WITH RATA FUNDS**

*The Broughton Bridge, located on Columbia County's Patit Road, near the City of Dayton and the road's intersection with State Route 12, was for years a concern to local farmers and community members promoting the county's recreational opportunities. Built in 1920, and only 19.5 foot wide, the Luten Arch structure was made of earthen-filled concrete and remained structurally stout and aesthetically pleasing. Nevertheless, the bridge was just too narrow to safely accommodate modern farm machinery and the nearly 1000 vehicles per day using the road during peak fishing and hunting seasons. The road approaches featured tight radiuses that were not suited for the road's 40 mph speed. With the help of \$230,600 in RAP funds, \$283,000 in Federal funds, and \$77,400 in local funds the County replaced the Luten Arch with a modern day pre-stressed 32-foot wide, 80-foot long concrete bridge. The adverse road alignment on both ends of the bridge was corrected as well.*



*The County was surprised to learn that the creek below the bridge, filled with Reed Canary Grass and which in many years goes dry, was home for threatened steelhead. The County hired fish biologists to assess how the new bridge would affect the steelhead. The resulting "likely to adversely affect" call required a biological opinion from National Marine Fisheries Service and extensive, costly negotiations. Fortunately the mitigation measures were much cheaper than the environmental paperwork and mainly consisted of planting some trees along the stream banks.*

*KSC Inc. of Kennewick was awarded the project at their bid of \$468,260. The project took about two months and was completed within \$400 of the bid price.*

*The County is proud of the new bridge and appreciates the public compliments. The increased bridge width and better road alignment make it safer and easier for the campers, hunters, fishermen, farmers and residents who use this road.*



### **LEWIS COUNTY PROGRAMS CAPP FUNDS FOR A NUMBER OF NEEDY ROADS IN 2002**

*Many road departments might well ask themselves "Why is it we hurt most the roads we love?" Rather than wasting time contemplating this profound question, Lewis County applied well -thought-out CAPP funded improvements to three of their more popular roads that were experiencing heightened pavement failure. Avery, North Military, and Coal Creek Roads were selected since they provide access to mills, gravel pits, detours off of I-5, and commuter traffic to the Chehalis business district. The county combined important sections of these roads into a construction project and contracted with Wilder Construction Company of Olympia, WA to do the needed preleveling and thin overlay work. With \$306,710 in CAPP funds and \$517,400 in county funds the roads will continue to support the high traffic demands they have for years.*



*Lewis County, through detailed pavement monitoring and timely application of CAPP and their own preservation funds, was able to prevent further and more costly deterioration of these crucial roads.*



**LINCOLN COUNTY USES CONTRACTOR AND ITS OWN CREWS TO  
IMPROVE HARRINGTON TOKIO ROAD**

*Harrington Tokio Road is one of the busiest roads within Lincoln County. It is part of a major north - south freight and mobility corridor extending from northeastern Washington and Canada to US I-90. It is also a heavily used local farm to market route.*

*Construction efforts focused on improving the roadway's steep rolling alignment, narrow lanes and shoulders, and rehabilitating its failing surface and subgrade.*

*With \$585,000 in RATA funding and \$603,093 in Federal funding, the county was able to accomplish the needed improvements using both a private Contractor and Lincoln County crews. Halme Construction Incorporated, of Davenport, WA, completed the roadway excavation embankment construction, culvert installation, crushed surfacing and asphalt concrete paving, while Lincoln County did the construction seal-coat, striping and signing.*



*The county's effective project management and use of its own skilled workforce for portions of the construction resulted in a finished product all are satisfied with.*

## SNOHOMISH COUNTY UPGRADES

### AIRPORT WAY/LOWELL-SNOHOMISH RIVER ROAD INTERSECTION

*Lowell-Snohomish River Road and Airport Way are high-volume minor collector arterials that intersect each other near Harvey Field and State Route 9 in Snohomish, Washington. Due to vigorous population growth, the Lowell-Snohomish Road became an important alternate route to State Route 9, linking the cities of Everett and Snohomish. Prior to area-wide flood damage in 1995, which closed the Lowell-Snohomish River Road to through traffic, this intersection operated at a LOS "F" due to heavy traffic volumes, poor sight conditions, lack of signalization, and substandard alignment.*



*The completed project improved approximately 2,700 feet of the Lowell-Snohomish River Road from State Route 9 to Airport Way. Along with repairing flood damaged sections, improvements on the road included construction of an 8-foot shoulder, installation of guardrail at spot locations and the creation of a storm water bio-filtration system.*

*Relocation of the Airport Way / Lowell-Snohomish River Road intersection approximately 200 feet south gained the following benefits:*

- 1. A business/industrial driveway became an intersection leg instead of a traffic conflict, allowing safe control of the traffic movements in and out of the businesses.*
- 2. Allowed construction of a left turn lane because it is sufficiently away from the Snohomish River Bridge.*
- 3. The county was able to design the intersection with a 90 degree angle, as opposed to the 30 degree angle before construction.*
- 4. Signals and illumination were installed.*

*The project was awarded to Grade Incorporated in August, 2001 and was completed the following April, 2002. The improvements provided an efficient realignment, coupled with signalization, to improve traffic flow and sight distance at the intersection.*

*The total cost came to \$2,431,530, made up of \$774,000 in RATA funds and \$1,657,530 in county funds.*

*The Airport Way / Lowell-Snohomish River Road intersection is no longer a tense bottleneck, but a complete and effective means of managing traffic flow.*



## **Stevens County Improves five miles of the Valley-Westside/Oakshot Road**

*The Valley-Westside / Oakshot Road project included two major rural collector roads that connect Orin Rice Road from the west to the city of Colville, the commercial hub of Stevens County. As traffic volumes increased over the years, road deficiencies such as narrow lane and shoulder widths, surface deterioration, poor intersections, and limited sight distance prompted the county to apply a major rehabilitation effort to the road's improvement. The county took special note of the hazardous 90-degree turn that through traffic had to negotiate where the two roads meet.*



*After many years in the planning, design, and right-of-way acquisition phases (RATA funding was approved in 1995), the project finally went to construction in 2002 at a cost of \$2,000,000 with the help of \$1,136,000 in Federal STP and local funds, and \$864,000 in RATA funds. The Prime Contractor, Valley Asphalt of Colville, WA, rehabilitated the roadway surface by grinding the existing asphalt surface, mixing in cement treated base and then working the mixed materials into the subgrade. The roadway was widened to 28 feet, the sharp curve radiuses were increased and*

*the roadway was resurfaced with 0.25 ft of asphalt concrete pavement. The contractor also removed roadside hazards, added sufficient drainage structures, and installed over 7,000 lineal feet of guardrail to enhance the safety of the roadway.*



## WALLA WALLA COUNTY REBUILDS DODD ROAD TO MEET REGIONAL AGRICULTURAL NEEDS

*Dodd Road is the only east/west farm to market road in western Walla Walla County. Originally constructed as a gravel road, it provides this large farming area with access to SR 12. Continued development along the road created the need for asphalt paving, especially at the western end near SR 12 where region-induced high truck volumes are concentrated. This improvement generated even more development, including a major feedlot, a large meat packing plant, a cold storage facility, and a potato storage facility. Growth in basic farming operations has continued.*

*The impacts of heavy truck volumes to the road were fast and furious, causing cracking, rutting and raveling to appear more quickly than usual. This made Portland Cement Concrete Pavement a preferred and economically viable alternative to Asphalt Concrete Pavement for the RAP funded project. Traffic control was also major issue during construction. In addition to the truck traffic, the meat packing plant employs three shifts of several hundred workers. With no alternate routes, traffic had to be channeled through the work area 24 hours per day. When it was all done, however, Dodd Road had emerged from a width of 26 ft to a higher capacity of 40 feet, including 8 foot shoulders, with the added benefit of a much stronger, low maintenance pavement.*

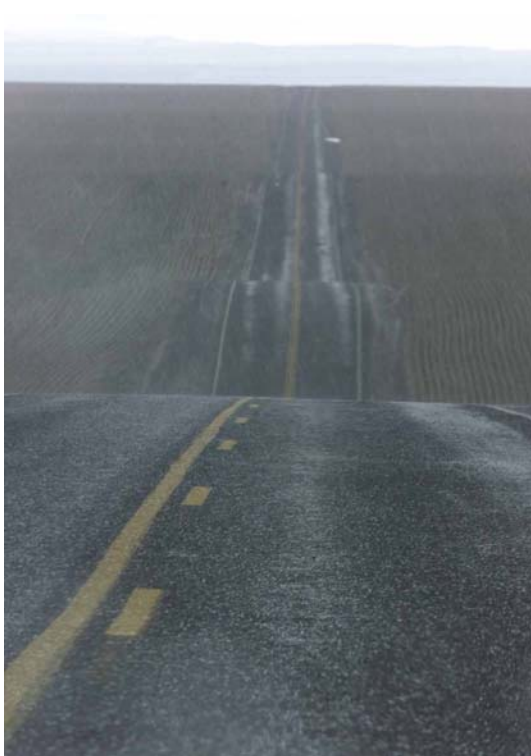
*Acme Concrete Paving of Spokane, WA performed the work at a cost of \$2,139,959, with the RAP contributing \$585,000 to the effort.*



*The project was a challenging but crucial improvement that will serve the citizens of Walla Walla County and their economic vitality for a long time.*

## **BENTON COUNTY TAMES SELLARDS ROAD WITH RAP FUNDS**

*Sellards Road is an east-west arterial across the middle of Benton County, traversing the Horse Heaven Hills. The horizontal alignment was not a problem since the roadway follows the section lines and is fairly straight. The real problem was that the original vertical alignment followed the lay of the land and featured a dip in the road that was so extreme, it caused a fully loaded grain truck trailer to break in half. This same sag and crest curve combination was well known to passenger cars as well, having launched a few of them through air and into adjacent wheat fields.*



*In 1997 the county was awarded \$1,125,000 in RATA funds to remedy the alignment, width and structural deficiencies of this important haul and commuter route. The total project was 4.05 miles long and involved 75,900 cubic yards of excavation; 63,070 cubic yards of embankment construction; a foot of crushed surfacing; 4 inches of Asphalt Concrete Pavement; and guardrails placed adjacent to large fills.*



*Copenhaver Construction of Creston, WA was the contractor. The total project costs were:*

<i>Preliminary Engineering</i>	<i>\$124,121</i>
<i>Right of Way</i>	<i>\$6,333</i>
<i>Construction Engineering</i>	<i>\$122,216</i>
<i>Contract Construction</i>	<i>\$1,164,236</i>

*The completed project meets the needs for safe and sane travel on an important cross county arterial.*

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